

## ABSTRACT OF THE DISCLOSURE

5 A closed loop system uses ( a) the intensity of the  
diaphragm electromyogram (EMG) for a given inspiratory volume; ( b) the  
inspiratory volume for a given EMG intensity; or ( c) a combination of ( a)  
and ( b); in view of controlling the level of gas flow, gas volume or gas  
pressure delivered by a mechanical (lung) ventilator. The closed loop  
ventilator system enables for automatic or manual adjustment of the level  
of inspiratory support in proportion to changes in the neuro-ventilatory  
10 efficiency such that the neural drive remains stable at a desired target  
level. An alarm can also be used to detect changes in neuroventilatory  
efficiency in view of performing manual adjustments.

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